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REPORT OF REVENUE OUTLOOK FOR  
LAST SIX MONTHS OF FY. . .

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STATE OF SOUTH CAROLINA  
BOARD OF ECONOMIC ADVISORS

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TO: South Carolina Budget and Control Board and  
the South Carolina General Assembly

SUBJECT: Report of Revenue Outlook for Last Six Months  
of FY 1987-88

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STATE DOCUMENTS

The Board of Economic Advisors is required by Section 11-9-880 of the 1976 South Carolina Code of Laws to provide a synopsis of the revenue outlook for the last six months of the fiscal year on December 31st of each year. The synopsis for December 31, 1987 is provided herein, with supporting tables.

Economic activity during the first five months of FY 1987-88 (July through November, the latest available data) has been essentially as projected. Gains in personal income in the State and nation have been positive, but modest. Seasonally adjusted unemployment rates have ranged from a high of 6.7% to a low of 5.9% nationally. In the State the range has been lower, from a high of 6.1% to a low of 4.6%. Inflation has been moving moderately upward and interest rates have remained relatively low.

Revenues generated during the period July through November have shown a pattern of improvement but are somewhat below target with projections, as indicated in the November 3rd Report before the Budget and Control Board.

The economic outlook for the next six months has not changed significantly since the Board of Economic Advisors' November 1 release

which cited more of the same--no recession likely before late 1989, but no real strength. There is, however, a distinct possibility of a larger than anticipated slowdown in growth during the first quarter of calendar year 1988 (January through March) based on a possible slowdown in consumer spending. Continued positive but modest growth is still expected in personal income. There should be a further reduction in the federal deficit in the next six months and the foreign trade balance should continue to fluctuate as it has over the last few months until sustained improvement occurs once the dollar stabilizes. This improvement should positively impact the exports of manufactured and agricultural products in the State. Growth in the service sector, with accompanying effects on employment, should continue at a reduced pace.

Estimated revenue collections from December 1987 through June 1988 will be influenced by many uncertainties such as the magnitude of Christmas sales and fluctuations in the general economic outlook. The first half of 1988 will be affected by developments in the financial sector and the international trade situation, with the first quarter particularly uncertain. On the basis of collections to date, relatively minor adjustments could be made but no real purpose would be served by such adjustments. On February 15, 1988 with two more months of actual revenues collected and a clearer indication of the direction of the economy in the first quarter, a more accurate assessment of the revenue situation will be possible.

Board of Economic Advisors

W.R.P.

December 31, 1987

TABLE I

GENERAL FUND REVENUES  
Forecast 1987-88 and 1988-89  
In Millions of Dollars

	ACTUAL 1986-87	REVISED 1987-88	ESTIMATE 1988-89
TOTAL GENERAL FUND (1)	2692.8	2886.0 *	3050.0
Total Regular Sources (1)	2651.8	2829.6 *	3000.0
Sales Tax (1)	946.9	1001.9	1062.0
Individual Income Tax	1008.9	1063.7	1149.0
Corporation Income Tax	184.9	224.3	233.0
All Other	511.0	539.7 *	556.0
Miscellaneous Sources	41.0	56.4	50.0
Education Improvement Fund	236.3	250.5 **	265.5 **
Interest on Education Improvement Fund	2.4	1.8	1.9
TOTAL	238.7	252.3	267.4
<u>RATES OF CHANGE</u>			
TOTAL GENERAL FUND		7.2%	5.7%
Total Regular Sources		6.7	6.0
Sales Tax		5.8	6.0
Individual Income Tax		5.4	8.0
Corporation Income Tax		21.3	3.9
All Other		5.6	3.0
Miscellaneous Sources		37.7	-11.3
Education Improvement Fund		6.0	6.0
Interest on Education Improvement Fund		-25.0	5.6
TOTAL		5.7	5.9

(1) Net of Education Improvement Fund.

\* Before adjustment of Earned on Investments by State Treasurer to \$64 million from \$79 million. With adjustment, category would be decreased \$15 million.

\*\* One-fifth of total sales tax.

TABLE II  
REVIEW OF GENERAL FUND REVENUE COLLECTIONS AND STATE INCOME GROWTH

FISCAL YEARS	PERSONAL INCOME AT ANNUAL RATES (MILLIONS OF \$)	PERCENT CHANGE PRIOR YEAR QUARTER	CUMULATIVE GENERAL FUND REVENUE (MILLIONS OF \$)	PERCENT CHANGE PRIOR YEAR QUARTER	RATIO OF REVENUE GROWTH TO INCOME GROWTH
<hr/>					
1984-85					
1984: 3	33,815	6.7	616.196	8.6	1.283
4	34,302	8.8	1,216.327	11.1	1.261
1985: 1	35,031	6.7	1,790.714	10.1	1.507
2	35,492	7.0	2,393.372	7.4	1.057
1985-86					
1985: 3	36,071	6.7	631.355	2.4	.358
4	36,773	7.2	1,254.505	3.1	.430
1986: 1	37,438	6.9	1,842.936	2.9	.420
2	37,953	6.9	2,509.288	4.8	.695
1986-87					
1986: 3	38,354	6.3	665.543	5.4	.857
4	38,869	5.7	1,364.079	8.7	1.526
1987: 1	39,435	5.3	1,990.810	8.0	1.509
2	40,051	5.5	2,692.754	7.3	1.327
1987-88					
1987: 3	40,770*	6.2*	726.531	9.2	1.483*
4	41,500*	6.7*	1,434.400*	5.2*	.776*
1988: 1	41,700*	5.7*	2,118.400*	6.4*	1.122*
2	42,450*	5.9*	2,886.019*	7.2*	1.220*
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\* Forecasts, Board of Economic Advisors, November 1, 1987.

Board of Economic Advisors  
December 31, 1987

REVENUE FORECASTING PROCEDURES  
BOARD OF ECONOMIC ADVISORS  
FISCAL YEARS 1988 AND 1989

The procedures and methodology of the Board of Economic Advisors in the preparation of the revenue forecasts for Fiscal Years 1987-88 and 1988-89 as of December 31, 1987 and January 1, 1988 involved three major stages: 1) providing the economic background and setting at the national and State levels for the revenue forecasts; 2) interpreting recent and historical revenue relationships; and 3) interacting with officials of other states with responsibility for revenue forecasting.

The Board members had meetings as in the past with experts and professional economists for economic intelligence gathering. These occurred both before and after the October 19 financial crisis. There was Board interaction with Martin S. Feldstein, Professor of Economics, Harvard University, and President of the National Bureau of Economic Research and former Chairman of the President's Council of Economic Advisors; Paul A. Volcker, former Chairman of the Federal Reserve Board of Governors; and others at the U.S. Economic Outlook Conference held on October 7, in New York City by Data Resources, Inc.

Following the financial crisis on October 19, a meeting was held on October 27 in Columbia, South Carolina with J. Alfred Broadus, Jr., Ph.D., Senior Vice President and Director of Research, the Federal Reserve Bank of Richmond; Ben E. Laden, Ph.D., Vice President and Chief Economist, T. Rowe Price Associates, Inc., Baltimore; Randolph C. Martin, Ph.D., Director of the Division of Research and Professor of Economics, University of South Carolina; Douglas P. Woodward, Ph.D., Research Economist, Division of Research, University of South Carolina; and Holley H. Ulbrich, Ph.D., Alumni Professor of Economics, Clemson University, in which the outlook for the economy of the nation and South Carolina was considered. Discussions have continued with a substantial number of leading economists in New York, Boston and Atlanta. The resources of the national forecasting groups by which the SCOPE model, when operative, and other forecasts are driven, Data Resources, Inc., Evans Economics, Inc., and Wharton Econometric Forecasting Associates, were available weekly and monthly to Board members. Materials from a variety of sources--international, national and state publications--were also made available to Board members.

The preparation of the economic and revenue forecasts involved many meetings between July 1 and December 31, 1987 with preliminary estimates, modifications and refinements of estimates.

Board of Economic Advisors  
December 31, 1987

## BRIEF OVERVIEW OF THE SCOPE MODEL

The SCOPE (South Carolina Operations Planning and Evaluation) Model was initiated in 1972 in the Office of Chief Economist (originally in the Governor's office). It was designed and operated as a policy and forecasting tool for top level executive, legislative and management decision making. SCOPE is an econometric model designed to reflect the South Carolina economy and to forecast the performance of major economic variables in the State, particularly tax revenues, employment and income. The model is based on a framework of economic activity in the State relative to national economic activity with approximately 85 exogenous national variables provided by leading national forecasting services such as Data Resources, Inc., Wharton Econometric Forecasting Associates, and Evans Economics, Inc.

The SCOPE core model consists of 63 equations, of which 55 are stochastic\* and 8 are identities. SCOPE attempts to reflect the diversity of the South Carolina economy by including 20 industrial sectors of manufacturing and nonmanufacturing employment, and a series of equations for wages, personal income, unemployment, taxable sales and State tax revenue.

### Durable Manufacturing Employment

The durable manufacturing employment block consists of 6 stochastic equations for the major industries in the State as reported by the South Carolina Employment Security Commission. The employment equations for each separate industry are expressed as a function of a national consumption expenditure index appropriate for that particular industry, a national industrial production index corresponding to that industry and the national level of employment in that industry. The durable employment forecasts include the following industries: Lumber and Products, Stone, Clay and Glass, Fabricated Metal Products, Electrical and Nonelectrical Machinery, and Other Durables which includes Furniture and Fixtures, Instruments and Related Products.

### Nondurable Manufacturing Employment

The nondurable manufacturing employment block consists of 7 stochastic equations for the major nondurable industries in the State. Like the durable block, the employment equation for each industry is expressed as a function of a national consumption index appropriate for that particular industry, a national industrial production index for that particular industry and the national level of employment in that industry. Employment forecasts are available for each of the following nondurable industries: Food and Kindred Products, Textile Mill Products, Apparel, Paper, Printing and Publishing, Chemicals, and Other Nondurables, such as Rubber and Miscellaneous Plastics Products.

\* Stochastic is defined as a type of modeling for time series analysis explaining future probability from historical experience.

## Nonmanufacturing Employment

The nonmanufacturing employment block is disaggregated into 7 stochastic equations: Construction, Transportation and Public Utilities, Services, Trade, Finance-Insurance-Real Estate, State and Local Government, and Federal Government. Employment growth in these industries is specified as functions of State population, national employment in these industries and national consumption indices.

## Personal Income

The personal income block is composed of 11 equations, one equation for the unemployment rate, and 10 additional equations for each of the 10 major components of personal income as published by the Bureau of Economic Analysis, Department of Commerce. These equations are specified as functions of their respective national and State income and employment variables. In addition, equations are estimated for wage and salary disbursements for all major industries and are specified as functions of national wage trends and State employment levels.

## Revenues

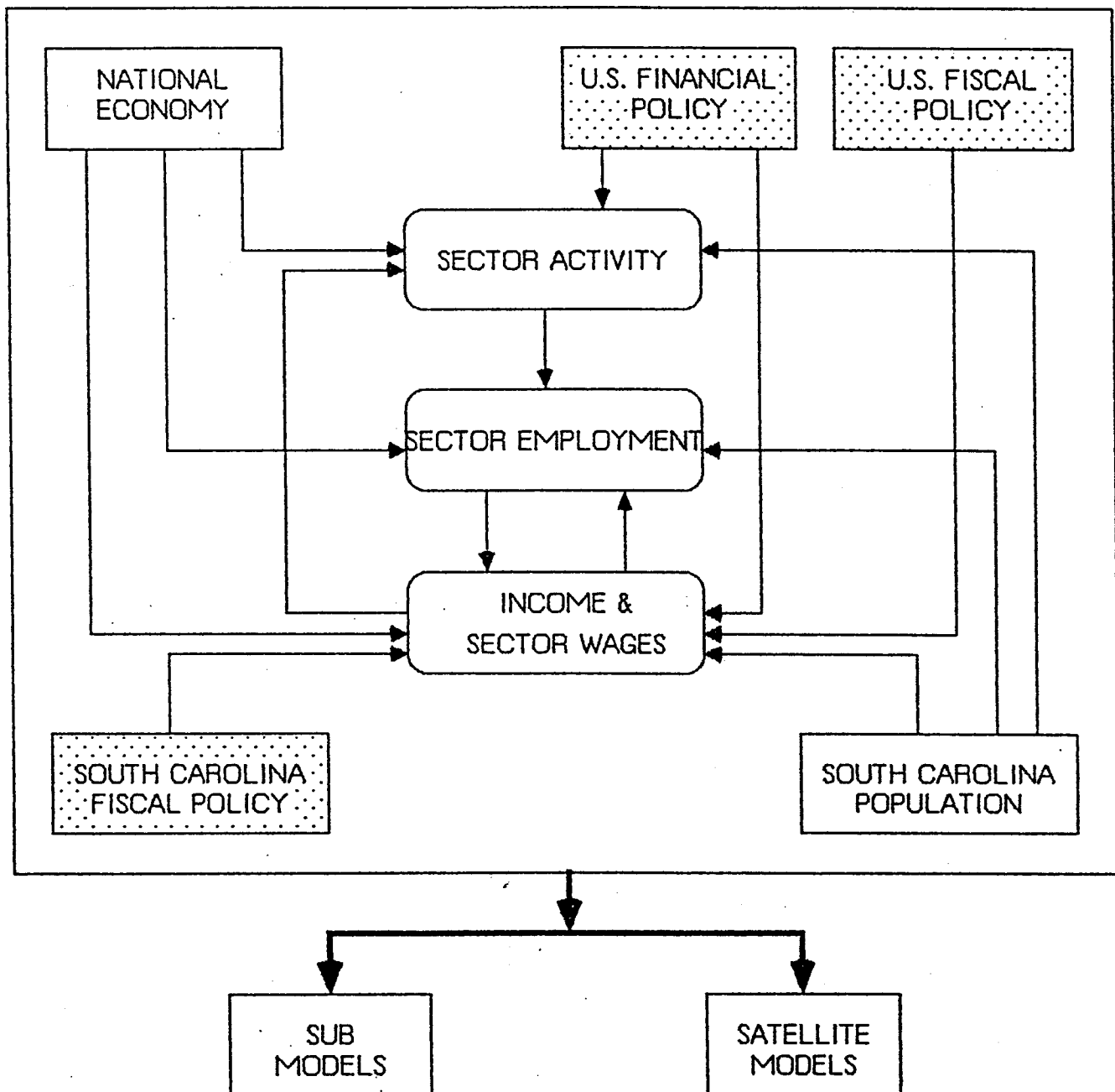
The revenue section of the model emphasizes 4 major stochastic Regular Revenue Sources equations: 1) South Carolina corporate income tax, 2) South Carolina individual income taxes, 3) South Carolina retail sales tax, and 4) all other taxes. These equations are individually specified as functions of aggregate employment and income with their respective coefficients and constants. In addition, there are 2 stochastic equations for taxable sales and refunds.




Board of Economic Advisors  
December 31, 1987



# SCOPE MODEL

## SOUTH CAROLINA OPERATIONS, PLANNING & EVALUATION MODEL



-  Exogenous Variables
-  Exogenous Policy Variables
-  Endogenous Variables



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REVENUE OUTLOOK - FY 1988-89

AS OF JANUARY 1, 1988

The Board of Economic Advisors is required by Section 11-9-880 of the 1976 South Carolina Code of Laws to consider adjustments to the official revenue forecast for the 1988-89 fiscal year on January 1, 1988. It has done so and determined that the likelihood of a reduced estimate could exist if a shortfall occurs in FY 1987-88. No adjustment over the forecast of \$3050 million made on November 1, 1987 is warranted, however, until December and January revenue data are available, and a clearer indication of the direction of the economy in the first quarter of 1988 emerges.

Board of Economic Advisors

W.R.P.

January 1, 1988

TABLE III

TOTAL GENERAL FUND REVENUES  
QUARTERLY ESTIMATES  
Fiscal Years 1987-88 and 1988-89  
(In Millions of Dollars)

	FY 1987-88 -----	FY 1988-89 -----
FIRST QUARTER	710.0	765.6
SECOND QUARTER	1434.4	1540.3
THIRD QUARTER	2118.4	2254.0
FOURTH QUARTER	2886.0 *	3050.0

PERCENT OF TOTAL REVENUES  
COLLECTION BY QUARTER

	FY 1987-88 -----	FY 1988-89 -----
FIRST QUARTER	24.6	25.1
SECOND QUARTER	25.1	25.4
THIRD QUARTER	23.7	23.4
FOURTH QUARTER	26.6	26.1

\* Before adjustment of Earned on Investments by State Treasurer to \$64 million from \$79 million. With adjustment, category would be decreased \$15 million.

Board of Economic Advisors  
November 1, 1987